CONSERVATION

JP-5 FUEL RECLAIMER

LEAD ACTIVITY
Naval Air Station (NAS) North Island

STATUS
Complete

MISSION
Minimize fuel waste through reclamation

REQUIREMENT
JP-5 fuel remaining from aircraft pre-flight checks and low point pencil drains has been disposed of as waste or commingled with other waste oils and transported off site for recycling. Methods to reduce disposal costs and waste generation were required. NELP determined reclamation of the fuel might be feasible.

DESCRIPTION
The JP-5 Fuel Reclaimer at Naval Air Station (NAS) North Island is a prototype effort of the Chief of Naval Operations (CNO) Pollution Prevention Equipment Program (PPEP) involving the design and installation of equipment, and the development and implementation of operation and maintenance procedures. In the past, JP-5 fuel remaining from aircraft pre-flight checks and low point pencil drains was disposed of as waste. Waste JP-5 fuel at NAS North Island was commingled with other waste oils and transported off the station for recycling. Fuel farm personnel at NAS North Island estimated that approximately 600 gallons per week of this waste was generated. Other studies incorporating the number of squadrons and detachments assigned to NAS North Island indicate that up to 1,000 gallons per week of JP-5 fuel may be generated and could be reclaimable for aircraft reuse.

JP-5 Fuel Reclaimer

The fuel reclaimer system components have been integrated to meet requirements for quality assurance and expected volume of reclaimed fuel. Most importantly, the design

provides a discrete tank system to process fuel and isolate each batch of recycled product from other fuel stock until certified for reuse. A dedicated fuel truck is used to collect and transfer the segregated JP-5 fuel to the reclaimer located at the NAS North Island fuel farm. A 15 gallon per minute (gpm) pump is used to (1) load the reclaimer's 2,000-gallon processing tank, (2) recirculate fuel in the processing tank through the system's water separator/dehydrator/coalescer and micronic (particulate) filters, and (3) transfer certified clean fuel to the reclaimer's 1,000-gallon issue tank using a 100 gpm pump.

BENEFITS

The reclaimer reduces raw material costs and waste generation and disposal costs. NELP has conducted a cost benefit analysis for the JP-5 fuel reclaimer. The analysis indicates that the reclaimer saves NAS North Island $19,638 per year in disposal costs and reduces waste generation by 48,164 pounds per year.

ACCOMPLISHMENTS/CURRENT STATUS

Date	Activity
JAN 1996	Containment pad was designed and constructed
MAR 1996	Unit was installed, including electrical hook up, tank high/low level indicator lights, piping connection, and placement of filter/separator elements in the appropriate vessels
APR 1996	Test plan was finalized and approval was received from Naval Air Weapons Center (NAWC) Trenton
MAY 1996	Staff Civil Engineering Department released official standard operation procedures (SOP) for squadron-level fuel segregation
JAN 1997	JP-5 reclaimer being offered to other shore activities through CNO PPEP. Project completed and exported
JAN 1999	Continued to offer JP-5 reclaimer to other shore activities through the PPEP

FUTURE PLAN OF ACTION & MILESTONES

Not Applicable

COLLABORATION/TECHNOLOGY TRANSFER

NAS North Island obtained the reclaimer through the preproduction initiative of the PPEP. Under NELP, the reclaimer is being demonstrated and evaluated for fleet-wide use.

BIBLIOGRAPHY

- Jacobs Engineering Group, P2 Equipment Cost Benefit Analysis Study. April 1997.

RELATED GOVERNMENT INTERNET SITES

PPEP Fluid Recyclers

RELATED NAVY GUIDEBOOK REQUIREMENTS
Not applicable

UPDATED: 01/23/02